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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/788,650	02/21/2001	Shigeru Nemoto	203372US2	7084

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EXAMINER

BAYERL, RAYMOND J

ART UNIT	PAPER NUMBER
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2173

DATE MAILED: 12/01/2003

12

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/788,650

Applicant(s)

NEMOTO, SHIGERU

Examiner

Raymond J. Bayerl

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 - 12 is/are pending in the application.
- 4a) Of the above claim(s) 11 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 - 10 is/are rejected.
- 7) ☒ Claim(s) 12 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 7, 8, 11.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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1. Applicant's election with traverse of claims 1 – 10, 12 in Paper No. 10 is acknowledged. The traversal is on the ground(s) that “[t]he claims of the present invention would appear to be part of an overlapping search area. This is not found persuasive because invention II, claim 11, by handling a “CT value range”, requires search in the diverse art area of graphics intensity processing, not a part of invention I. The entire field and scope of required search are materially different, even if the two original classifications of the two inventions might be included in a proper search of both.

The requirement is still deemed proper and is therefore made FINAL.

2. Claim 12 is objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot depend on other multiple dependent claims (see parent claims 5, 6). See MPEP § 608.01(n). Accordingly, the claim 12 has not been further treated on the merits. (Upon initial inspection, it appears that the dual parentage presented for the claim would at least raise issues under 35 USC 112, second paragraph—and claim 9 is not a “method”).)

3. Claims 3 – 10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

At lines 6 – 7 of claim 3, the “display-speed setting mechanism” sets a “display speed of each series for at least two series of tomographic images”. Thus, the claim thus far permits two or more different speeds. How is it, then, at line 12, that “a [e.g., single] speed” is “set”?

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In claim 9, at line 5, "the storage mechanism" appears without clear antecedent basis.

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 3 – 5, 9 – 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hilton et al. ("Hilton"; US #5,452,416 A) in view of Pelanek ("Pelanek"; US #6,067,075).

As per independent claim 1, the claimed "tomographic image" display system, having "a display portion for displaying at least one series of tomographic images" and "a storage mechanism for storing at least one series of tomographic image data", reads upon Hilton's arrangement for ORGANIZING, PRESENTING, AND MANIPULATING MEDICAL IMAGES, which presents two or more image series, image-by-image, in adjacent presentation areas of a series display container (Abstract). Please note the riffle function of Hilton, which shuffles through an image series in forward or reverse sequence (col 11, line 53 – col 12, line 2), as in the "controller" function claimed that "displays tomographic images in the manner of paging on the display portion for the series".

As per claim 1's "speed set by the display-speed setting mechanism; the display-speed setting mechanism being a mechanical variable knob in a separate case", while it

is true that Hilton contemplates that the speed is controlled by the trackball, such a particular input peripheral is not **explicitly** disclosed in this in-passing remark.

However, Pelanek's CONTROLLER FOR A MEDICAL IMAGE REVIEW STATION is one in which a controller is capable of functions that include... cine loop; single frame jog; skip forward/back; displayed **frame speed** and direction (Abstract). Specifically, the controller 83 contains a **Speed Knob control 236** which is rotatable in a forward or reverse direction (col 5, lines 27 – 58).

It would therefore have been obvious to a person having ordinary skill in the art at the time of applicant's invention to page the Hilton frames according to a "variable knob in a separate case" as per Pelanek, because of the high analogy between the two teachings and the capability a specialized controller offers to an image archiving system such as Hilton's.

Independent claim 3 recites an embodiment in which a "display-speed setting mechanism" operated by a "controller", as in Pelanek, is used "for setting a display speed of each series for at least two series of tomographic images", for "simultaneously displaying a plurality of series of tomographic images...based on a speed set by the display-speed setting mechanism", as in Hilton's use of "coupling", in which more than one image series is presented, with each image series being presented in its sequence order (col 7, lines 15 – 63).

It would also have been obvious to the person having ordinary skill in the art at the time of applicant's invention to use Pelanek's "controller" that regulates "speed" in

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the case of co-relative image series as per Hilton, because the operator would only have to control a single speed between the two related series.

Thus, in achieving Hilton's "coupling", claim 4's "synchronizing display speeds for a plurality series of tomographic images" will result. The "display-speed setting mechanism" involving an "adjusting knob" in claim 5 reads upon Pelanek's **Speed Knob control**, as noted above with respect to independent claim 1.

Independent claim 9, which recites "receiving a set of values for display speed for each series of tomographic images" in a "plurality series of tomographic images" is a somewhat broader version of independent claim 3, and the rationale for rejection is similar to that presented above.

Claim 10's "synchronization command which matches a display speed for at least two series of tomographic images" would be needed in the Hilton/Pelanek combination, so as to bind the two series in Hilton's "coupling", when speed-controlled as by Pelanek.

6. Claims 2, 6 – 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hilton in view of Pelanek and Stockham et al. ("Stockham"; US #6,081,267 A).

While Pelanek teaches a **Speed Knob** that is applicable to the Hilton display, a "mechanical variable knob" that "is a mechanical slide-bar type variable adjuster" as in claims 2, 6 is not **explicitly** disclosed. However, the RADIOLOGICAL ANALYSIS AND MANIPULATION of Stockham is one in which image container 86 (fig 6) is used to start, stop, or control the sequence speed through a variable slider (col 7, line 60 – col 8, line 9).

It would have been further obvious to the person having ordinary skill in the art at the time of applicant's invention to use a "mechanical slide-bar" as the **Knob** in Pelanek, when applied to Hilton, because Stockham teaches the usefulness of the **slider** mode in the environment of cine sequence display for tomographic images.

The use of "a keyboard or a mouse cooperatively worked with soft ware so as to set the display speed" (claim 7) reads upon the mouse capability of Stockham (col 6, lines 7 – 57).

7. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hilton in view of Pelanek and Schwalb et al. ("Schwalb"; US #2002/0065684 A1).

While the "coupling" mode of Hilton is generally useful in handling two different-but-related series in the speed-controlled setting specifically outlined by Pelanek, "displayed plural series" that "comprise one obtained using a contrast medium and another obtained without a contrast medium" are not **explicitly** taught by this combination.

However, Schwalb's technique for RENDERING DIAGNOSIS OF RADIOLOGY PROCEDURES specifically calls for comparing images from the current procedure to specific images from prior procedures (Abstract). The time sequence suggested in this reference includes the current and prior viewings produced with and without a "contrast medium", respectively.

Therefore, it would have also been obvious to the person having ordinary skill in the art at the time of applicant's invention to view a differential between contrast application and original anatomy, as suggested by Schwalb, in the coupled-image

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speed controlled environment of Hilton/Pelanek, because this is a typical situation in which side-by-side, simultaneous and synchronized display is needed.


8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The remaining US Patent documents made of record (see attached form PTO 892) relate further to display techniques in the art of medical image viewing.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Raymond J. Bayerl whose telephone number is (703) 305-9789. The examiner can normally be reached on M - F from 10:00 AM to 5:00 PM.

10. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Cabeca, can be reached on (703) 308-3116. All patent application related correspondence transmitted by FAX **must be directed** to the central FAX number (703) 872-9306.

11. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.


RAYMOND J. BAYERL
PRIMARY EXAMINER
ART UNIT 2173

24 November 2003